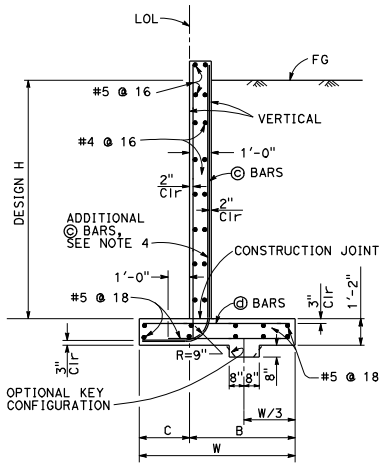
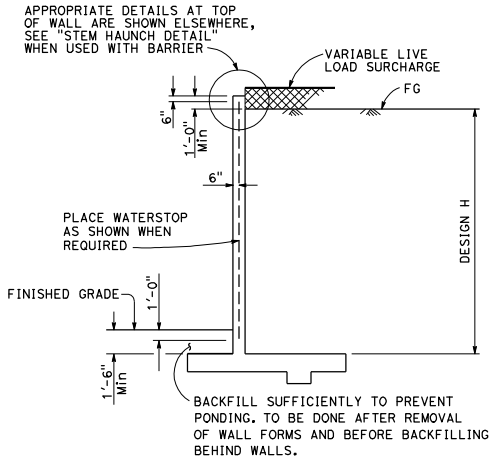
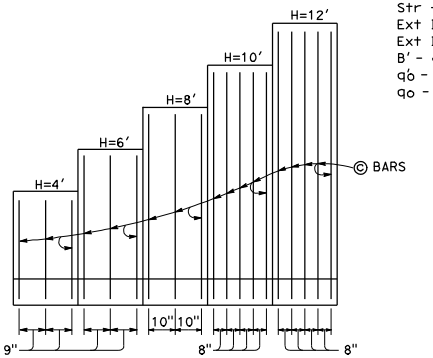


SPREAD FOOTING SECTION

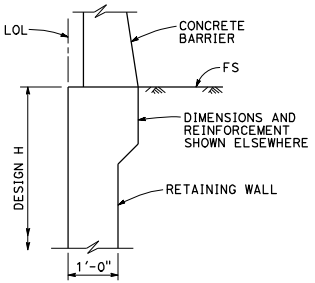
Place concrete in toe against undisturbed material, except as permitted by the Engineer.



DESIGN SECTION



ELEVATION



STEM HAUNCH DETAIL

TABLE OF REINFORCING STEEL, DIMENSIONS AND DATA					
DESIGN H	4'	6'	8'	10'	12'
W	7'-0"	7'-0"	7'-3"	7'-5"	8'-2"
C	2'-3"	2'-3"	2'-3"	2'-5"	2'-7"
B	4'-9"	4'-9"	5'-0"	5'-0"	5'-7"
Ⓒ BARS	#6 @ 9	#6 @ 9	#7 @ 10	#7 @ 8	#7 @ 8
Ⓓ BARS	#5 @ 9	#5 @ 9	#6 @ 10	#7 @ 8	#7 @ 8
Ser: B', q_o	6.7, 0.8	6.7, 1.0	6.3, 1.3	5.8, 1.6	6.2, 1.9
Str: B', q_o	6.6, 1.6	5.2, 1.7	3.7, 2.2	2.8, 3.3	3.0, 3.9
Ext I: B', q_o	5.6, 0.9	4.8, 1.4	4.1, 2.0	3.1, 3.2	2.7, 4.5
Ext II: B', q_o	2.8, 1.9	2.7, 2.5	2.8, 3.0	2.6, 3.7	3.4, 3.6

SYMBOLS:

Ser - service limit state I
Str - strength limit state I
Ext I - extreme event limit state I
Ext II - extreme event limit state II
B' - effective footing width (ft)
q_o - net bearing stress (ksf), OG assumed to be FG at toe
q_o - gross uniform bearing stress (ksf)

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS

Gary Wang
REGISTERED CIVIL ENGINEER

April 20, 2012
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER
Gary Wang
No. C58298
Exp. 6-30-12
CIVIL
STATE OF CALIFORNIA

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

TO ACCOMPANY PLANS DATED _____

DESIGN CONDITIONS:

Design H may be exceeded by 6" before going to the next size. Special footing design is required where foundation material is incapable of supporting bearing stress listed in the table.

DESIGN NOTES:

DESIGN: AASHTO LRFD Bridge Design Specifications, 4th Edition with California Amendments

LS: Varied surcharge on level ground surface

DC: Stem Architectural Treatment of thickness up to 6" of concrete (75 psf) considered

CT: 54 kip transverse force applied at He = 32", distributed over 10 feet at the top of wall and 1 : 1 distribution down and outward. Distribution below footing taken no less than 40'.

SEISMIC: $k_h = 0.2$, $k_v = 0.0$

SOIL: $\phi = 34°$, $\gamma = 120$ pcf

REINFORCED CONCRETE: f'c = 3,600 psi, fy = 60,000 psi

LOAD COMBINATIONS AND LIMIT STATES:

Service I	$Q = 1.00DC+1.00EV+1.00EH+1.00LS$
Strength I	$Q = \alpha DC+\beta EV+\eta EH+1.75LS$
Extreme I	$Q = 1.00DC+1.00EV+1.00EH+1.00EQD+1.00EQE$
Extreme II	$Q = 1.00DC+1.00EV+1.00EH+1.00CT$

Where:

Q:	Force Effects
α:	1.25 or 0.90, Whichever Controls Design
β:	1.35 or 1.00, Whichever Controls Design
η:	1.50 or 0.90, Whichever Controls Design
DC:	Dead Load of Structure Components
EH:	Horizontal Earth Fill Pressure
EV:	Vertical Earth Pressure from Earth Fill Weight
LS:	Live Load Surcharge
EQE:	Seismic Earth Pressure
EQD:	Soil and Structural and Nonstructural Components Inertia
CT:	Vehicular Collision Force

NOTES:

1. For details not shown and drainage notes see RSP B3-5
2. For wall stem joint details see B0-3 3-3 and B0-3 3-4
3. At Ⓒ bars:
   H ≤ 6', no splices are allowed within 1'-8" above the top of footing.
   H > 6', no splices are allowed within H/4 above the top of footing.
4. Provide #6 @ 8" Ⓒ bars in addition to tabulated Ⓒ bars over a distance of 8'-0" measured from all expansion joints, begin wall and end wall location.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

RETAINING WALL TYPE 1A (CASE 1)

NO SCALE

RSP B3-3A DATED APRIL 20, 2012 SUPPLEMENTS THE STANDARD PLANS BOOK DATED 2010.

REVISED STANDARD PLAN RSP B3-3A

2010 REVISED STANDARD PLAN RSP B3-3A

2-22-12